LINAC COMMISSIONING FORM 21-sep-2001

Major Category: DTL Tank2-6

Sub-Category: Beam Sub-category (for DTL Tank 2)

Sub-System (e.g. beam emittance, or BPM etc.): Steering

Objective: Guide the beam through the center of the tank 2 quads (horizontal and vertical directions)

Requested by: J.Galambos

Date Proposed:

Estimated Time to Complete: 2 shifts

Estimated Manpower to Complete: 4 man-shifts

Priority/Order: high/2

Basic Equipment Needs (e.g. which diagnostics): BPMs, and dipole correctors

Special Equipment Needs: None

Software/Application needs: Steering algorithm

Input Beam Requirements: Short pulse beam (100 μsec), > 20 mA, 10 Hz

Other prerequisites: None

Correlations Sought: None

Procedure: Vary each corrector in Tank 1 and 2 independently and observe the effect on the positions of each BPM in Tanks 1 and 2. Using this response matrix, find the combination of dipole corrections that minimizes the average beam offset between the orbit and BPM center, subject to dipole corrector constraints.

Supporting Computations: None

Problems Expected: None

Comments: This plan assumes more time than latter steering tasks, to allow for debugging of the steering algorithm (first use). If the beam based quad alignment has been done, then appropriate corrections to the BPM centers should be included in the procedure.

Date Completed LANL: **Date Completed ORNL:**

Results:

Problems Encountered: